

REMARKS

The Office Action dated October 3, 2006 has been received and carefully noted. The above amendments to claims 1-9, 15, 16, 21, and 26-29 and the following remarks, are submitted as a full and complete response thereto. No new matter is being presented, and approval and entry are respectfully requested. Support for the two disturbing reflectors recitations may be found, at least, on FIG. 3 and paragraphs [0024] and [0025] of the Specification.

Claims 1-29 are pending and under consideration.

REJECTION UNDER 35 U.S.C. § 102:

At page 2 of the Office Action, claims 1-29 were rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Publication No. 2004/0013360 A1 of Smets ("Smets"). The Office Action took the position that Smets describes all the recitations of independent claims 1, 8, 15, 21, and 26-29 and related dependent claims. It is respectfully asserted that, for at least the reasons provided herein below, Smets fails to teach or suggest the recitations of the pending claims. Reconsideration is requested.

Independent claim 1, upon which claims 2-12 are dependent, recites a method, including transmitting an upstream signal from a first station, reflecting said upstream signal by at least two disturbing reflectors to produce a disturbing reflection, and combining said disturbing reflection with a second reflection of said upstream signal to

render said second reflection undecodable by a second station to ensure confidentiality of signal transmission in a point-to-multipoint data transmission network, wherein said point-to-multipoint data transmission network comprises at least one hub, at least one transmission medium and at least one station connected to said hub via said at least one transmission medium.

Independent claim 8, upon which claims 9-14 are dependent, recites a system, including at least two disturbing reflectors placed upstream of a first station and a possible point of eavesdropping in a point-to-multipoint data transmission network configured to produce a disturbing reflection of a signal transmitted by said first station to ensure confidentiality of signal transmission in said point-to-multipoint data transmission network, to make said disturbing reflection to combine with a second reflection of said signal, wherein said point-to-multipoint data transmission network comprises at least one hub, at least one transmission medium and at least one station connected to said hub via said at least one transmission medium.

Independent claim 15, upon which claims 16-20 are dependent, recites a network, including at least one hub, at least one transmission medium, at least one station connected to said hub via said at least one transmission medium, and at least two disturbing reflectors placed upstream of a first station and a possible point of eavesdropping in said transmission network configured to produce a disturbing reflection of a signal transmitted by said first station and to make said disturbing reflection to combine with a second reflection of said signal.

Independent claim 21, upon which claims 22-25 are dependent, recites a transmission apparatus, including at least one optical splitter, at least one connector for an optical network unit, and at least two disturbing reflector placed upstream of a first station and a possible point of eavesdropping in said transmission network configured to produce a disturbing reflection of a signal transmitted by said first station and to make said disturbing reflection to combine with a second reflection of said signal.

Independent claim 26 recites a point-to-multipoint data transmission network, including at least one hub, at least one transmission medium, at least one station connected to said hub via said at least one transmission medium, transmission means for transmitting an upstream signal from a first station, reflection means for reflecting said upstream signal by at least two disturbing reflection means for producing a disturbing reflection, and combination means for combining said disturbing reflection with a second reflection of said upstream signal to render said second reflection undecodable by a second station.

Independent claim 27 recites a system, including at least two disturbing reflection means, placed upstream of a first station and a possible point of eavesdropping in a point-to-multipoint data transmission network, for producing a disturbing reflection of a signal transmitted by said first station for ensuring confidentiality of signal transmission in a point-to-multipoint data transmission network, said disturbing reflection is combined with a second reflection of said signal, wherein the point-to-multipoint data transmission

network comprises at least one hub, at least one transmission medium and at least one station connected to said hub via said at least one transmission medium.

Independent claim 28 recites a network, including at least one hub, at least one transmission medium, at least one station connected to said hub via said at least one transmission medium, and at least two disturbing reflection means, placed upstream of a first station and a possible point of eavesdropping in said transmission network. for producing a disturbing reflection of a signal transmitted by said first station, said disturbing reflection is combined with a second reflection of said signal.

Independent claim 29 recites a transmission apparatus, including at least one optical splitter, at least one connector for an optical network unit, and at least one disturbing reflection means, placed upstream of a first station and a possible point of eavesdropping in said transmission network, for producing a disturbing reflection of a signal transmitted by said first station, said disturbing reflection is combined with a second reflection of said signal.

As will be discussed below, Smets fails to disclose or suggest the elements of any of the presently pending claims.

Smets generally describes a reflective splitting passive optical network including a splitter that is arranged to pass through all communication signals received from any one of the optical network units to all optical network units in the network in order to allow for efficient initialization and synchronization of all the optical network units. The efficient initialization and synchronization of all the optical network units in Smets is

achieved by arranging the splitter 11 to reflect the communication signals. See paragraph [0029] of Smets. Smets also describes that all of the incoming channels 30 are coupled inside the reflective splitter 11. See paragraph [0030] of Smets.

However, Smets fails to teach or suggest, at least, “reflecting said upstream signal by at least two disturbing reflectors to produce a disturbing reflection,” as recited in independent claim 1. Smets does not provide that at least two disturbing reflectors may be used to reflect an upstream signal to produce a disturbing reflection. Instead, the splitter described in Smets is arranged to pass through all communication signals received from any one of the optical network units to all optical network units in the network. Thus, Smets fails to anticipate the recitations of independent claim 1.

Because independent claims 8, 15, 21, and 26-29 include similar claim features as those recited in independent claim 1, although of different scope, and because the Office Action refers to similar portions of the cited references to reject independent claims 8, 15, 21, and 26-29, the arguments presented above supporting the patentability of independent claim 1 are incorporated herein to support the patentability of independent claims 8, 15, 21, and 26-29.

In view of the foregoing, it is respectfully requested that independent claims 1, 8, 15, 21, and 26-29 and related dependent claims be allowed.

At page 3 of the Office Action, claims 1-29 were rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Publication No. 2005/0078958 A1 of Chae (“Chae”). The

Office Action took the position that Chae describes all the recitations of independent claims 1, 8, 15, 21, and 26-29 and related dependent claims. It is respectfully asserted that, for at least the reasons provided herein below, Chae fails to teach or suggest the recitations of the pending claims. Reconsideration is requested.

Chae generally describes an optical network comprising a plurality of optical network units connected to an optical combiner unit (optical star coupler) via respective optical connections. The optical combiner unit is connected to an optical line terminal unit via one optical line connection. In addition, a redirection unit is located just after the optical combiner unit in the upstream direction. The redirection unit serves to redirect a portion of a signal transmitted by one of the optical network units to the rest of the optical network units. The objective of the above redirection by Chae is to implement collision detection. Chae also describes the use of jamming of the redirected signal for achieving that the redirected portion of the transmitted signal cannot be reconstructed at the various optical network units for security reasons. This jamming may be achieved via introducing an overlap between redirected signal portions.

However, Chae fails to teach or suggest at least, “reflecting said upstream signal by at least two disturbing reflectors to produce a disturbing reflection,” as recited in independent claim 1. One of the many benefits of using multiple disturbing reflectors is that there is a delay between two distinct reflected signals produced for disturbing purposes. The two reflected signals better render the combination of the two reflections, that is, the disturbing reflection and the unconcealed reflection unrecoverable.

Chae describes only one disturbing reflection (Chae, Figure 6). In Chae, the reflection from the transmitted signal is reflected back via a straight reflection in the form of the loop-back connection. This signal is recoverable in the downstream terminals. There is a second loop-back, which includes a delay that introduces a certain degree of jamming by causing a time transition in the two reflected signals. However, such configuration is insufficient, especially if the delay accidentally coincides with a continuous signal sequence or a gap. Accordingly, in view of the foregoing reasons, at least, Chae fails to teach or suggest all the recitations of independent claim 1.

Because independent claims 8, 15, 21, and 26-29 include similar claim features as those recited in independent claim 1, although of different scope, and because the Office Action refers to similar portions of the cited references to reject independent claims 8, 15, 21, and 26-29, the arguments presented above supporting the patentability of independent claim 1 are incorporated herein to support the patentability of independent claims 8, 15, 21, and 26-29.

In view of the foregoing, it is respectfully requested that independent claims 1, 8, 15, 21, and 26-29 and related dependent claims be allowed.

CONCLUSION:

In view of the above, Applicant respectfully submits that the claimed invention recites subject matter which is neither disclosed nor suggested in the cited prior art. Applicant further submits that the subject matter is more than sufficient to render the

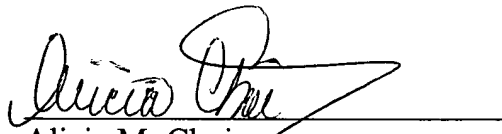
claimed invention unobvious to a person of skill in the art. Applicant therefore respectfully requests that each of claims 1-29 be found allowable and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the Applicant respectfully petitions for an appropriate extension of time.

Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,


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Enclosures: Petition for Extension of Time
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